

Answers to Enrichment Exercise for Modules 4-5

- Part I:  $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$   
 $A = \{2, 4, 6, 8\}$  (even number)  
 $B = \{2, 3, 5, 7\}$  (prime number)  
 $C = \{6\}$  (multiple of 6)

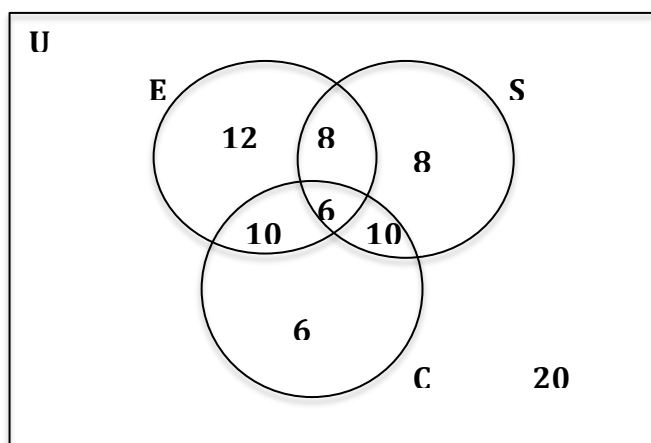
NOTE: It will help if you draw a Venn diagram for this.

- 1)  $A' = \{1, 3, 5, 7, 9\}$
- 2)  $B' \cup C = \{1, 4, 6, 8, 9\}$
- 3)  $C' \cap A = \{2, 4, 8\}$
- 4)  $(A' \cap B')' = \{2, 3, 4, 5, 6, 7, 8\}$
- 5)  $(C \cup B)' \cap A = \{4, 8\}$

Part II.

- a) cross country =  $2 + 3 + 1 + 4 = 10$  (everything inside circle C)
- b) cross country only = 2
- c) cross country & archery =  $3 + 4 = 7$  (intersection of C and A)
- d) cross country or badminton =  $1 + 2 + 3 + 4 + 1 + 8 = 19$  (all inside C and B)
- e) cross country and badminton but not archery = 1
- f) cross country & archery only = 3
- g) cross country & badminton =  $1 + 4 = 5$

Part III.



- a) English only = 12
- b) None of the three subjects = 20 (maybe they like Math ☺)
- c) CLE only = 6
- d) Science & CLE = 16
- e) Science or CLE =  $8 + 8 + 6 + 10 + 10 + 6 = 48$
- f) Science & CLE only = 10
- g) Do not like CLE = 48